

BEFORE
THE PUBLIC SERVICE COMMISSION
OF SOUTH CAROLINA
Docket No. 2019-290-WS

In Re:)	
)	
Application of Blue Granite Water)	REPORT REGARDING
Company for Approval to Adjust Rate)	VOLUMETRIC SEWER BILLING
Schedules and Increase Rates)	
)	

Pursuant to Order No. 2020-306 of the South Carolina Public Service Commission (the “Commission”), Blue Granite Water Company (the “Company” or “Blue Granite”) files for the Commission’s information the following report of the Company’s investigation into its ability to obtain water usage data for its sewer service customers in order to facilitate volumetric sewer billing, as well as the cost to install flow meters.

As explained in more detail below, some water providers are simply unwilling to provide their customers’ water usage data, while others are willing to provide some data but not all of that which is needed by the Company to maintain accurate customer records. Further, as explained below, there are practical obstacles that weigh against the installation of sewer flow meters. While the Company continues its investigation into these issues, no matter what course of action is pursued, there are additional costs that would ultimately be passed on to customers were the Company to transition to volumetric sewer billing. For these reasons, it is not clear at this time whether the costs associated with such a transition would be commensurate with the benefits to customers.

I. Background

The Company provides sewer service to approximately 12,620 connections across 29 systems. Of these connections, 6,429 are provided both water and sewer service by the Company (“Mutual Service” customers), and 6,191 are sewer-only customers. Where water is provided, it is measured and billed using a Company-owned water meter. At any given time, there are a number of water and sewer connections that are not actively being provided service (“inactive premises”); however, for the purposes of this investigation, the Company included inactive premises in its analysis to ensure comprehensive data is included. Below in Table 1 is a summary of connections by system, categorized as Sewer-Only or Water & Sewer.

TABLE 1

System Name	Water & Sewer	Sewer Only	Total Sewer
Briarcreek		75	75
Canterbury		151	151
Carowoods	55		55
Chambert Forest		205	205
Country Oaks	47		47
Fairwood		94	94
Forty Love Point	138		138
Foxwood	221		221
Friarsgate/Ballentine Cove		3,868	3,868
Glenn Village II/Stonebridge	267		267
Highland Forest		64	64
Indian Fork/Forty Love	75	21	96
Kingston Harbour		98	98
Lake Wylie/River Hills	4,394	14	4,408
Lincolnshire/Whites Creek		277	277
North Lakeshore Point		27	27
Oakland Plantation	252	13	265
Palmetto Apts		57	57
Pocalla	101	77	178
Roosevelt Gardens		5	5
Shadowood Cove		127	127
Shandon	36		36
Smallwood Estates	126		126
Stonegate	143		143
The Villages		314	314
Trollingwood	43	18	61
Valleybrook		205	205
Watergate	531	480	1,011
Woodmont High School		1	1
Grand Total	6,429	6,191	12,620

II. Mutual Service Customers

As shown in Table 1, the Company has identified 6,429 connections across 14 sewer systems where the Company also provides metered water service on a one-to-one basis. The Company's Customer Service and Billing ("CC&B") system maintains two "Service Agreements" for such customers, one each for water and sewer service connection, or "Service Point." For these Mutual Service customers, the Company currently bills both the applicable water metered charges and sewer charges on the same bill and monthly billing cycle. While water billing is volumetric, sewer service is billed on a flat rate basis in accordance with the Company's Commission-approved tariff. Transitioning to a process by which the Company uses its water meter reads for sewer billing would require the following:

- 1) Identify relevant water meter reading cycles for Mutual Service systems;
- 2) Close the existing sewer Service Agreements consistent with the timing of each Mutual Service customer's water meter read cycle;
- 3) Create new Service Points within the Company's CC&B system to facilitate volumetric sewer classification;
- 4) Create new volumetric sewer Service Agreements, effective on the first day of the next meter read cycle, using the end read of the last read cycle as the start read;
- 5) Create and attach new Rate Codes for volumetric sewer rates to be billed to the new Service Agreements; and
- 6) Cancel existing Payment Plans/Payment Arrangements ("PPs/PAs") and re-establish the PPs/PAs using the prior PPs'/PAs' remaining terms (i.e., period, due dates, amount due).

The above process would minimize “short” or pro-rated bills, while being the least confusing and most seamless for customers. However, based on past experience with similar transitions in other jurisdictions, this process would take approximately 45 minutes per customer account—or approximately 4,800 hours total—to complete this transition by customer service or billing representatives, and may require temporary staff to assist in the transition process.

III. Sewer-Only Customers

The Company has identified the primary water providers for each of its Sewer-Only systems, as shown in Table 2 below. The Company sent letters to each primary water provider inquiring about the ability of the provider to supply water meter read data, as well as relevant customer data, for matched premises. The Company sent a premise list for the systems supplied by the provider to match premises on a one-to-one basis.

TABLE 2

Primary Water Provider	BGWC Sewer System	Total # of Connections	# of Matched Connections	# of Unmatched Connections	
				Inactive	Active
Beaufort-Jasper Water Sewer Authority	Palmetto Apts	57	54	2	1
City of Columbia	Friarsgate/Ballentine Cove	3,868	3,859	3	6
City of Columbia	North Lakeshore Point	27	27	0	0
City of Columbia	Shadowood Cove	127	102	1	24
City of Orangeburg	Roosevelt Gardens	5	5	0	0
Draytonville Water Company	Briarcreek	75	72	1	2
Greenville Water	Canterbury	151	0	10	141
Greenville Water	The Villages	314	0	65	249
Greenville Water	Trollingwood	18	0	3	15
Greenville Water	Valleybrook	205	0	17	188
Greenville Water	Woodmont High School	1	0	0	1
Greenwood CPW	Highland Forest	64	0	2	62
High Hills Rural Water	Oakland Plantation	7	7	0	0
Lexington Joint Municipal	Kingston Harbour	98	0	0	98
Lexington Joint Municipal	Watergate Sewer	480	0	0	480
Meansville-Riley Water Company	Fairwood	94	93	0	1
Private Well	Indian Fork/Forty Love	21	0	1	20
Private Well	Oakland Plantation	6	0	2	4
Private Well	Pocalla	77	0	15	62
Private Well	Lake Wylie/River Hills	14	0	4	10
Rural Community Water District of Georgetown County	Lincolnshire/Whites Creek	277	269	2	6
Starr Iva Water	Chambert Forest	205	115	78	12
Grand Total		6,191	4,603	206	1,382

a. Matched Premises

The Company requested that each water provider check the Company's list of Sewer-Only premises against their customer premise listing. This matching of premises would allow the Company the ability to obtain meter reads and related customer data and utilize it directly for volumetric sewer billing purposes. The Company requested that water providers supply the following information in Microsoft Excel spreadsheet format for each water read cycle:

- 1) Meter Reading Report
- 2) Meter Change Out Report
- 3) Opened Accounts Report
- 4) Closed Accounts Report
- 5) Turn On/Off Report
- 6) Miscellaneous Adjustments Report
- 7) Adjusted Usage Report
- 8) Account Transfers Report

While the Meter Reading Report will be the primary source of data for billing volumetric sewer, the remaining reports are necessary for the Company to maintain current customer records, align water usage billed by the water provider with volumetric sewer billed by the Company, as well as minimize discrepancies in billing between water and sewer providers. However, even if the water provider and Company customer records align, the water provider may not be able to report on the Company's customers' activity efficiently, as the customers may not be easily grouped or segregated for reporting purposes. This would require custom or ad hoc reporting capabilities for the water provider's customer data systems, which could add costs or other resources to produce on a regular basis. The inability to supply the customer data update reports

could result in incorrect mailing addresses, incorrect customer names, incorrect usage billed due to unidentified meter changeouts or usage/leak adjustments, or other discrepancies. Such inconsistencies can result in customer confusion, increased customer service call volume, and numerous follow-up contacts with the water provider to clarify information, all of which lead to customer dissatisfaction and an inefficient use of Company resources.

The Company would require the above-noted reports to be supplied for each water read cycle. The reports would be sent via e-mail to the Company's Billing Department Supervisor, allowing the Billing Department to load the meter reads and update customer billing data as needed to complete the billing process each month. To transition customers to volumetric sewer billing, the Company would close the existing flat rate Service Agreement in its billing system by issuing a final bill, along with notice of the transition and new billing cycle, if applicable. The Company would then establish a new Service Agreement with volumetric sewer rates that aligns to the applicable water meter read cycle of the water provider. However, the Company notes that in the experience of its Customer Service Center, customers tend to react negatively to a change in their billing cycle, as such a shift could affect their household budgeting plans and put timely payments at risk. As such, the Company could request that the water provider adjust their read cycles to align with the Company's current billing cycle for the Sewer-Only customers, though it is unclear whether water providers would be willing to make such an adjustment.

Were the Company to receive the requested reports from customers' water service providers that were consistent with the format needed by the Company, the process of utilizing the meter and customer data would not be unreasonably burdensome. However, as explained in more detail below, this issue of obtaining data from water providers is not straightforward, and,

depending on the variety of scenarios that may ultimately be put in place with each water provider, additional resources may be required.

b. Premises Not Matched with Water Provider

As shown in Table 2, although the Company has identified the primary water service providers for the Company's Sewer-Only systems, there are situations where a one-to-one match of accounts does not exist (or is yet to be confirmed). This can occur when the Company has historically billed for sewer service to individual units of a multi-family complex, such as condominiums or apartments, but water is not metered on a unit basis, but instead through a master meter for a set of units and then billed to the landlord or property management company. In such cases, water meter data is not available for the Company's sewer customers. There is little incentive for the water provider or landlord to install unit-level water meters at the Company's request (if such installation is even practical, considering potential difficulty in locating and accessing individual domestic water piping within the multi-family complex). Absent the ability to match customers on a one-to-one basis for water reads and sewer service, the Company would be required to continue flat rate billing for such customers.

c. Customers with Private Wells

As noted in Table 2, the Company has identified 118 customers who are not provided water from a service provider, but instead utilize a private well for water supply. Additional private well customers may also be identified as the Company complete the premise matching process with water providers. For such customers, the Company has the following options:

- 1) Prepare and execute a consent agreement with the customer to allow the Company access to the well for the installation, regular reading, and necessary maintenance and testing of a

Company-owned water meter. The agreement must also contain coverage for liabilities associated with Company assets on and attached to a customer's private property.

2) Continue flat rate billing for sewer service.

For those customers who appear to be served by a private well, the Company would send a letter describing the considerations for volumetric sewer billing and requesting the customer agree to allow the Company to meter the private well. However, should a customer refuse to allow water metering, or otherwise not respond to the Company's request, the Company would be required to continue to bill a flat rate for sewer service. Should the Company obtain customer consent to meter the private well, an AMR/AMI-capable meter would be installed by a certified contractor in a new meter box adjacent to the well. This installation would cost approximately \$570 per premise—for a total of \$67,260 for the 118 premises identified to-date—which includes a 5/8" meter, meter box, and labor. Additional costs would be incurred in acquiring data collection equipment, such as antennas and meter data management systems. The new meter would require monthly readings and data load to the Company's CC&B billing system, which would be an additional operating cost for the Company that would vary depending on the location and number of meters, but historically costs approximately \$0.70 per read per meter. As need and ultimate acceptance by customers of private well metering may be sporadic throughout the Sewer-Only systems, such metering, reading, and maintenance may not result in an efficient use of resources.

IV. Consideration of Sewer Flow Meters

As required in Order 2020-306, the Company has investigated the potential for installing sewer flow meters to capture sewer flow data. The Company found that the installation of metering devices for sewer flow on a premise level is not a common industry practice and is not a reasonable

option at this time. The following considerations have affected the lack of sewer flow meter use in the industry:

- 1) **Practicality** – A sewer flow monitoring device on a common residential lateral would require the installation of a small diameter manhole/vault to enclose the metering device. In this case, it would either require the installation of a direct power source to each facility or use of a device that has a multi-year battery. A direct power source is frequently not available, and a battery power option will be much more costly than for water meters due to the continuous flow measurement requirements.
- 2) **Technology** – In most instances, sewer flow monitoring is predicated on (1) constant flow through a measuring chamber (Parshall Flume metering) and/or (2) full pipe flow during discharge (ultrasonic or electromagnetic metering). The metering types listed here are deployed in multiple sewer measuring scenarios depending on the application but would be neither equitable nor feasible in a residential setting. Ultrasonic or electromagnetic metering is most effective when full or constant flow is present, and the intermittent flows of residential sites would cause significant accuracy issues, as explained below.
- 3) **Accuracy** – The intermittent discharges associated with a residential sewer lateral make accurate metering very challenging. The average household discharges less than 360 gallons per day of wastewater, delivered at varying times (i.e., morning and evening). Sewer metering devices are generally designed for and most effective with constant or full-pipe flow to accurately capture volumes.
- 4) **Prudence** – The cost of sewer flow meters can range from several hundred dollars to several thousand dollars depending on the application. Starting cost for a 4-inch

diameter sewer flow meter would likely average \$600-\$1,000, which does not include a vault, power supply, or installation, each of which would vary depending on the specific layout needs of the connection. This compares unfavorably to the average cost of an all-inclusive AMI water meter installation of \$570. Installation of sewer flow meters would also require additional operating costs for maintenance, testing, and monthly reading services.

V. Alternative Considerations

As an alternative to the above scenarios, the Company has also considered installing AMR/AMI-capable water meters beyond the water provider's meter (i.e., on the "customer's side" of the service line). This strategy would allow the Company to 1) capture water meter reads without relying on the water provider to supply data, 2) maintain existing read cycles for its Sewer-Only customers, 3) control billing and customer service inputs and processes. However, this method would require:

- 1) Redundancy of assets on the water line (e.g., multiple water meters on a single line);
- 2) Additional meter reading, testing, and maintenance costs;
- 3) Customer consent for the additional water meter to be installed on customer property, similar to the scenario for private well water customers described above;
- 4) Significant capital investment. Using the above-noted \$570 per meter, the total cost would be approximately \$3,528,870 at minimum, with potential for higher costs involving more complex installations or for larger meters; and
- 5) Obtaining water meter location and size data in advance from the water provider in order to properly plan and implement the project.

Based on the above considerations, the Company does not believe it would be in customers' best interest, or be reasonable or prudent, to pursue this strategy.

VI. Obtaining Data Access from Water Providers

Following the above-noted initial correspondence with the identified water providers, the Company had various follow-up discussions to review the details of the process. However, the particular process ultimately agreed upon by the Company and each water provider may necessitate modification to the terms of a data sharing agreement.

The following is the response to-date for each water provider. Discussions are in-progress with the water providers, and the nature of the final agreed-upon procedures are subject to change. The total cost of obtaining the data from each water provider on an ongoing basis is unknown at this stage, and would be determined per the terms of the data sharing agreement with each provider.

a. City of Columbia – 3 Systems, 4,022 Connections

The Company and City of Columbia ("Columbia") have been in discussion over the past several months. Columbia is willing to work with the Company in providing water usage data and the additional requested reports on a monthly basis. Columbia utilized GIS mapping of the Company's sewer customers in Columbia's service region to confirm one-to-one matching of premises. This analysis resulted in over 99% of the premises matching. Columbia typically requires a per customer record charge that would apply to each monthly read cycle. The Company will continue discussions with Columbia to determine potential needed contract provisions.

b. Greenville Water – 5 Systems, 689 Connections

The Company has engaged in several discussions with Greenville Water, who has decided that it will not provide water usage data to the Company. Instead, Greenville Water would propose to bill the Company's sewer customers on the Greenville Water bills, which is its current practice

with other sewer providers. Under such a scenario, Greenville Water would handle billing, maintain effective rate schedules, and handle customer service for billing concerns. Greenville Water would remit billing receipts to the Company on a monthly basis and would negotiate a fee per billed customer per month for data transfer.

The Company does not believe Greenville Water's proposal provides adequate customer service benefits and transparency. The Company believes this scenario would cause confusion to customers who are familiar with Blue Granite as their local sewer provider. In terms of customer service, the customers would be expected to contact Greenville Water for billing issues but contact the Company for service issues. If customers happen to contact the wrong entity, the Company is concerned that customer issues may get lost, miscommunicated, or not handled timely. Such could lead to customer confusion and frustration. The Company is also concerned about the loss of control in implementation of rate changes, adherence to approved tariffs, PSC statutes and regulations, bill adjustments, or potential credits or surcharges.

The Company has provided Greenville Water with the applicable premise listing to complete the matching process, but Greenville Water is unwilling to complete the matching process at this time. The Company has also yet to confirm that Greenville Water can supply periodic billing and customer data needed to support Company filings and maintain adequate customer records.

c. Lexington Joint Municipal – 2 Systems, 578 Connections

The Company has engaged in several discussions with Lexington Joint Municipal ("Joint Municipal") to determine the most appropriate method of sharing data. Joint Municipal is also unwilling to provide customer water usage data, and instead proposes that the Company read Joint-Municipal-owned water meters, under the supervision of a Joint Municipal employee, to obtain

the water meter reads. This practice would require the Company to purchase specific meter reading equipment, estimated to cost \$20,000, with approximately \$2,200 in annual fees and maintenance for the equipment, in addition to additional ongoing operational costs due to the required manual meter reading. Further, the additional customer data needed for maintaining accurate customer records (i.e., Meter Change Out Reports, Opened Accounts Reports, Closed Accounts Reports, Turn On/Off Reports, Miscellaneous Adjustments Reports, Adjusted Usage Reports, and Account Transfers Reports) would still need to be provided to the Company by Joint Municipal. The Company and Joint Municipal are currently in discussions regarding the additional monthly reports needed. Should these reports not be provided, the Company would be unable to maintain adequate customer records, resulting in missed mailing address updates, meter change out information, and billing adjustments, which could result in customer confusion and potential complaints. The Company has also not yet received the requested premise list matching report from Joint Municipal.

d. Rural Community Water District of Georgetown County – 1 System, 277

Connections

In discussions with Rural Community Water District of Georgetown County (“RCWD”), RCWD expressed a willingness and ability to provide the monthly usage data; however, they are unable to provide the additional reports needed at this time. The Company received a sample report from RCWD, which it used to analyze each premise in this system. The format of the sample report provided by RCWD required manual editing by the Company in order to effectively analyze the data. This could be an administrative burden going forward, as it will require manual adjustments to the RCWD report each month by the Company.

e. Starr-Iva Water - 1 System, 205 Connections

The Company has engaged in several discussions with Starr-Iva Water (“Starr-Iva”). The particular sewer system served by Starr-Iva has a highly-transient customer base, which would put a greater need on customer data updates. In addition, Starr-Iva reads water meters on a bi-monthly cycle, which would require the Company to convert applicable customers from monthly to bi-monthly sewer billing cycles. Starr-Iva is willing to work with the Company in providing the usage data and other reports needed. The Company reviewed a premise list provided by Starr-Iva in order to match premises in this system; however, there were many non-matches, likely related to the transient nature of the customers as noted above. The Company and Starr-Iva have initiated discussions on contract provisions and possible fee arrangements for data transfer.

f. Meansville-Riley Water Company – 1 System, 94 Connections

The Company has corresponded with Meansville-Riley Water Company (“Meansville”) on multiple occasions, responding to questions on the process and providing proposals and details of the requested processes. Meansville has provided premise matching for the Company’s sewer premises in this system and has expressed that it is willing to work with the Company on a monthly basis to provide the water usage and other data requested. Meansville and the Company are in discussion regarding monthly processes and potential fees.

g. Draytonville Water Company – 1 System, 75 Connections

The Company has discussed the potential data sharing with Lowry Utilities (“Lowry”), the billing service entity for Draytonville Water Company. Lowry has provided premise matching for the Company’s sewer premises in this system and has stated that it is willing with work with the Company on a monthly basis to provide the water usage and other data requested. Lowry and the Company are currently discussing monthly processes and potential fees.

h. Greenwood Commissioners of Public Works – 1 System, 64 Customers

The Company has corresponded with Greenwood Commissioners of Public Works (“Greenwood CPW”), which is currently undergoing a billing system replacement project. Greenwood CPW may require customers to sign a consent form authorizing sharing of their water meter and account data with the Company. The Company is awaiting additional information on Greenwood CPW’s ability to provide the requested data in order to continue discussions on premise matching and required contract terms.

i. Beaufort-Jasper Water & Sewer Authority – 1 System, 57 Connections

In corresponding with Beaufort-Jasper Water & Sewer Authority (“Beaufort-Jasper”), the Company has confirmed that all but three premises match Beaufort-Jasper’s customer data, two of which are inactive per the Company’s recent billing records. The Company is continuing discussions regarding the amount of customer data that Beaufort-Jasper is willing to provide. Currently, Beaufort-Jasper is only willing to provide monthly usage data, but not the remaining reports required for adequate customer account maintenance. It will be difficult to proceed with volumetric sewer billing for this system with only consumption data, as explained above regarding Joint Municipal.

j. City of Orangeburg – 1 System, 5 Connections

In correspondence with City of Orangeburg (“Orangeburg”), Orangeburg has stated they may require customers to sign a consent form authorizing sharing of their water meter and account data with the Company. Orangeburg has noted that additional consent from the apartment complex’s management and the health facility currently served by the Company may be required. The Company has verified that all five connections in this system are provided water service by Orangeburg, and the Company is currently in discussion with Orangeburg regarding its ability to provide the requested monthly reports.

k. High Hills Rural Water – 1 System, 13 Connections

In initial discussions with High Hills Rural Water (“High Hills”), the Company identified 7 premise matches and 6 premises that appear to be served by private wells. The Company is awaiting final word on High Hills’s ability to provide the requested data in order to continue discussions on required contract terms.

VII. Next Steps

As detailed above, the Company is in various stages of discussion and negotiation with several water service providers to obtain data that would facilitate volumetric sewer billing. The Company is currently confirming unmatched premises and those without a water provider in its GIS system in order to finalize a list of customers requiring consent for water meter installation. The Company anticipates completing the process of matching premises with water providers in August 2020, followed by negotiation of data sharing agreements in September and October 2020, subject to the Commission’s approval of the agreements, and later a volumetric sewer billing rate design.

As explained above, some water providers are simply not willing to provide their customers’ water usage data, and others are willing to provide some water usage data but not all that is needed by the Company to maintain accurate customer records. For each of the water providers Blue Granite contacted, there would be increased costs that would be passed along to customers, including (1) fees paid to the water providers in exchange for customer data; (2) increased administrative costs to reconcile the received data with the Company’s records; and (3) increased operational costs to read meters owned by the water providers. In spite of the potential feasibility of obtaining customer water usage data, which the Company continues to investigate, it is not clear at this time whether the associated costs would be commensurate with the benefits.

The Company will continue its efforts to investigate the feasibility of obtaining water usage data needed to facilitate volumetric sewer billing over the coming months, in advance of its next rate case.

Respectfully submitted,

s/Samuel J. Wellborn

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August 7, 2020

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Schedules and Increase Rates)	
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This is to certify that I, Samuel J. Wellborn, attorney with the law firm of Robinson Gray Stepp & Laffitte, LLC have this day served a copy of the Report Regarding Volumetric Sewer Billing in the referenced matter to the parties listed below by electronic mail:

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Dated at Columbia, South Carolina, this 7th day of August, 2020.


